



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

Whence

$$\int_q^p f(x)dx = (p - q)f\left[\frac{p + q}{2}\right] + \frac{1}{12}(p - q)^3. \quad [W. H. Echols.]$$

Also solved by Messrs. Geo. R. Dean, Eric Doolittle, and H. Y. Benedict.

### EXERCISES.

369

SOLVE the equation

$$\frac{d^2y}{dx^2} - y = e^{\frac{1}{2}x^2}. \quad [Geo. R. Dean.]$$

370

FROM a point  $A$  on the equator a northeast rhumb line is drawn ; find at what latitude it again strikes the meridian of  $A$ , and express the length of the rhumb line in radii. [James McMahon.]

371

PROVE that the ratio of

$$\begin{vmatrix} \sigma_1(2u_1), & \sigma_1(2u_2), & \sigma_1(2u_3) \\ \sigma_2(2u_1), & \sigma_2(2u_2), & \sigma_2(2u_3) \\ \sigma_3(2u_1), & \sigma_3(2u_2), & \sigma_3(2u_3) \end{vmatrix}$$

to

$$\sigma(u_2 + u_3)\sigma(u_3 + u_1)\sigma(u_1 + u_2)\sigma(u_2 - u_3)\sigma(u_3 - u_1)\sigma(u_1 - u_2)$$

is independent of the arguments  $u_\lambda$  ; and that its value is

$$4(e_2 - e_3)(e_3 - e_1)(e_1 - e_2);$$

the notation being that of Weierstrass.

[Frank Morley.]

372

WHEN the bilinear invariant of two binary  $n$ -ics is zero, we say that the  $n$ -ics are *apolar*. When also the  $n$ -ics coincide we say that either is self-apolar. And we may apply the same adjectives to the sets of  $n$  points (or  $n$ -ads) which represent the zeros of the  $n$ -ics. Any odd set of points is, we know, self-apolar (Salmon's Higher Algebra, § 153). Prove that an even set is self-apolar when the first polar of any point of the set, with regard to the rest, is self-apolar. [Frank Morley.]